

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/013686

International filing date (day/month/year)
30.04.2004

Priority date (day/month/year)
02.05.2003

International Patent Classification (IPC) or both national classification and IPC
F16L41/06, F16L55/105, F16L55/10, F16L55/128

Applicant
TDW DELAWARE, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/013686

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/013686

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-15
	No: Claims	16
Inventive step (IS)	Yes: Claims	1-15
	No: Claims	16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1 The following documents are referred to in this communication:

- D1 : GB 1 064 398 A (PASS &; COMPANY LTD E) 5 April 1967 (1967-04-05)
- D2 : US 3 785 041 A (SMITH J) 15 January 1974 (1974-01-15)
- D3 : EP 0 069 551 A (FORTH VICTOR PERCY) 12 January 1983 (1983-01-12)
- D4 : US 3 170 226 A (ALLAN LARRY TIMOTHY) 23 February 1965 (1965-02-23)

I. NOVELTY:

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 16 is not new in the sense of Article 33(2) PCT.

With reference to independent claim 16:

The document D2 discloses (the references in parentheses applying to this document, see especially figures 1 to 4):

Apparatus for use in a system for plugging a pipeline comprising:

a first and second toroidal collar (31, 32) each formed of a lower half semi-toroidal portion () and a detachable mating upper half semi-toroidal portion (), the portions when assembled having an internal circumferential surface of diameter substantially equal to the external diameter of the pipeline (12), each collar (31, 32) having on a forward face a planar sealing surface (33, 34 - this surfaces can be used as sealing surfaces), said collars adaptable for fixation to the exterior of a pipeline (12) and for receiving seal elements having circumferential sealing lip pressed against said planar sealing surfaces.

2.1 With regard to dependent claims 1 to 15:

The subject-matter of claims 1 to 15 is new with regard to the cited prior art.

II. INVENTIVE STEP:

3 With reference to independent claim 1:

a) Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parenthesis applying to this document, see especial figures 1 and 2 and claim 6):

A method of plugging a pipeline (17) comprising the steps of

- welding onto the exterior of the pipeline (17) first and second spaced apart collars;

- affixing, by welding, a containment housing (12, 13) to said collars to fully encompass a section of the pipeline (17) between said collars, the containment housing (12) having an open top (24);
- removably attaching a tapping machine (11) to said containment housing (12) in communication with said open top (24);
- by use of said tapping machine, cutting and removing a length of the pipeline (17) from between said collars;
- positioning, by means of said tapping machine, a seal element (28) between said collars;
- expanding said seal element (28) to force closing said pipe (17).

b) From this, the subject-matter of independent claim 1 differs in that:

- each collar having a sealing face in a plane perpendicular the pipeline axis;
- cutting and removing a length of the pipeline from between collars leaving two open pipe ends;
- positioning, by means of said tapping machine, first and second seal elements between said collars, each seal element having on a forward face a forwardly extending circumferential lip of internal diameter greater than the external diameter of the pipeline; and
- moving said seal elements apart from each other to force each said circumferential lip into sealing engagement with a aid collar sealing face closing said pipe.

c) The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)

d) The problem to be solved by the present invention may be regarded as to provide a method for plugging a pipe under pressure having therein high temperature liquids or gases.

e) The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The technical solution provided for the sealing system formed by the collars having a sealing face in a plane perpendicular the pipeline axis which cooperate with the seal elements lip is neither known from, nor rendered obvious by, the available prior art.

Document D2 discloses a method for plugging a pipe in which two collars are welded around the pipeline, but no sealing engagement between the collars and seal element is disclosed.

Document D3 discloses a method for plugging a pipe by cutting a length of pipe and expanding one seal element into the severed pipe portion. There are no welded collars described.

Document D4 discloses a method for plugging a pipe by cutting a length of pipe

and expanding two seal elements into the severed pipe portion against the two open pipe ends. Also here, there are no welded collars present.

3.1 With reference to dependent claims 2 to 13

Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

4 With reference to independent claim 14:

a) Document D2, which is considered to represent the most relevant state of the art, discloses (the references in parenthesis applying to this document, see especially column 3, lines 8 to 20, and figures 1 to 4):

An assembly for use in a system for plugging a pipeline (12) comprising

- a first(31) and a second (32) toroidal collar each formed of a lower half semi-toroidal portion and a detachable mating upper half semi-toroidal portion, the portions when assembled having an internal circumferential surface of diameter substantially equal to the external diameter of the pipeline (12), each collar having on its inward face a planar sealing surface (33, 34) and a rearward surface; and
- an alignment fixture for aligning the collars and accurately spacing them from each other.

b) From this, the subject-matter of independent claim 14 differs in that:

- the alignment fixture having paralleled end plates spaced apart a substantially accurate predetermined distance, the end plates adapted for removable attachment to said rearward surfaces of said lower half semi-toroidal collar portions whereby said inner planar sealing surfaces are accurately supported in paralleled and spaced apart positions and whereby said alignment fixture with said lower half semi-toroidal portion of each said collar may be positioned in contact with the pipeline and thereby ready to receive said upper half semi-toroidal portions.

c) The subject-matter of claim 14 is therefore novel (Article 33(2) PCT)

d) The problem to be solved by the present invention may be regarded as providing an assembly which confers the possibility for building a fast and precise construction for plugging a pipe a pipe under pressure having therein high temperature liquids or gases.

e) The solution to this problem proposed in claim 14 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The combination of the specific features of this claim is neither known from, nor rendered obvious by, the available prior art..

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2004/013686

4.1 With reference to dependent claim 15:

Claim 15 is dependent on claim 14 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

II. INDUSTRIAL APPLICATION:

The subject-matter of claims 1 to 16 can be manufactured in industry, and thus looked upon as being industrially applicable.